

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A humidifier comprising:

a humidifier housing including a lower base member and an upper cover member mounted on top of said lower base member, said lower base member defining a liquid-containing compartment that opens upwardly, said upper cover member defining a fan-mounting space that is disposed above said liquid-containing compartment and being formed with a vapor outlet, said humidifier housing further defining a wheel-receiving space between said liquid-containing compartment and said fan-mounting space;

a fan mounted in said fan-mounting space and operable so as to generate air currents that flow out of said humidifier housing through said vapor outlet; and
a water wheel device including a horizontal wheel axle mounted rotatably in said wheel-receiving space,

a drive motor mounted to said humidifier housing and coupled to said wheel axle for driving axial rotation of said wheel axle, and

a plurality of disc members mounted spacedly and co-rotatably on said wheel axle, each of said disc members having a lower disc portion extending into said liquid-containing compartment, and an upper disc portion disposed under and adjacent to said fan;

each of said disc members includes:

a disc body having an axle mounting portion mounted on said wheel axle, and a plurality of disc extension portions that extend in radially outward directions from said axle mounting portion and that are angularly spaced apart from each other, said disc body having first and second sides; and

a cover unit mounted on said first side of said disc body and cooperating with said disc body to form a plurality of first liquid-receiving recesses in said second side of said disc body, each of said first liquid-receiving recesses being disposed between a corresponding adjacent pair of said disc extension portions;

said cover unit includes a plurality of cover plates, each said cover plate extends between an adjacent pair of said disc extension portions, said cover plates further cooperating with said disc body to form a plurality of second liquid-receiving recesses in said first side of said disc body, each of said second liquid-receiving recesses being disposed between a corresponding adjacent pair of said cover plates;

each of said second liquid-receiving recesses has a width that is gradually increased in a direction away from said wheel axle and opens at a periphery of said disc body;

adjacent ones of said cover plates are formed with end protrusions that cooperate to form a restricted access opening into the corresponding one of said second liquid-receiving recesses at the periphery of said disc body;

whereby liquid contained in said liquid-containing compartment is agitated when said disc members rotate and is subsequently vaporized by the air currents generated by said fan.

2. (Original) The humidifier as claimed in Claim 1, wherein each of said disc members has one side formed with a plurality of liquid-receiving recesses adapted for moving the liquid contained in said liquid-containing compartment toward said fan when said disc members rotate.

3. (Original) The humidifier as claimed in Claim 1, wherein each of said disc members has opposite sides formed with a plurality of liquid-receiving recesses adapted for moving the liquid contained in said liquid-containing compartment toward said fan when said disc members rotate.

4. (Canceled)

5. (Currently Amended) The humidifier as claimed in Claim [[4]] 1, wherein each of said first liquid-receiving recesses has a width that is gradually increased in a direction away from said wheel axle, and opens at a periphery of said disc body.

6. (Original) The humidifier as claimed in Claim 5, wherein adjacent ones of said disc extension portions are formed with end protrusions that cooperate to form a restricted access opening into the corresponding one of said first liquid-receiving recesses at the periphery of said disc body.

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Original) The humidifier as claimed in Claim 1, wherein said humidifier housing further includes a supply tank mounted on top of said lower base member and disposed beside said upper cover member, said supply tank being adapted for containing the liquid that is to be supplied to said liquid-containing compartment, said supply tank being formed with a liquid outlet, said humidifier further comprising a control valve mounted in said liquid outlet and responsive to liquid level in said liquid-containing compartment to control fluid communication between said liquid outlet and said liquid-containing compartment so as to maintain the liquid level at an appropriate level.

11. (Original) The humidifier as claimed in Claim 10, wherein said supply tank is mounted removably on said lower base member.

12. (Original) The humidifier as claimed in Claim 10, wherein said lower base member has an open top side, and said cover member and said supply tank cooperate to seal said open top side of said lower base member.

13. (New) A humidifier comprising:

a humidifier housing including a lower base member defining a liquid-containing compartment that opens upwardly, said housing shaped for defining a fan-mounting space that is disposed above said liquid-containing compartment and said housing being formed with a vapor outlet, said humidifier housing further defining a wheel-receiving space between said liquid-containing compartment and said fan-mounting space;

a fan mounted in said fan-mounting space and operable so as to generate air currents that flow out of said humidifier housing through said vapor outlet; and

a water wheel device including

a wheel axle mounted rotatably in said wheel-receiving space,

at least one disc member mounted rotatable on said wheel axle, each of said disc members having a lower disc portion extending into said liquid-containing compartment, and an upper disc portion disposed under and adjacent to said fan;

a drive motor mounted at said humidifier housing and coupled to said at least one disc member for driving axial rotation of said at least one disc member;

each of said disc members includes:

a disc body having an axle mounting portion mounted on said wheel axle, and a plurality of disc extension portions that extend in radially outward directions from said axle mounting portion and that are angularly spaced apart from each other, said disc body having first and second sides; and

a cover unit mounted on said first side of said disc body and cooperating with said disc body to form a plurality of first liquid-receiving recesses in said second side of said disc body, each of said first liquid-receiving recesses being disposed between a corresponding adjacent pair of said disc extension portions;

said cover unit includes a plurality of cover plates, each said cover plate extends between an adjacent pair of said disc extension portions, said cover plates further cooperating with said disc body to form a plurality of second liquid-receiving recesses in said first side of said disc body, each of said second liquid-receiving recesses being disposed between a corresponding adjacent pair of said cover plates;

each of said second liquid-receiving recesses has a width that is gradually increased in a direction away from said wheel axle and opens at a periphery of said disc body;

adjacent ones of said cover plates are formed with end protrusions that cooperate to form a restricted access opening into the corresponding one of said second liquid-receiving recesses at the periphery of said disc body;

whereby liquid contained in said liquid-containing compartment is agitated when said at least one disc member rotates and is subsequently vaporized by the air currents generated by said fan.